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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,736	10/11/2000	Andrew Peter Bradley	169.1867	3845

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EXAMINER

AHMED, SAMIR ANWAR

ART UNIT PAPER NUMBER

2623

DATE MAILED: 02/25/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/685,736

**Applicant(s)**

BRADLEY ET AL.

**Examiner**

Samir A. Ahmed

**Art Unit**

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-10,14-16,19-21,25-29,33-35,38-40,44-48,52-54 and 57 is/are rejected.
- 7) ☒ Claim(s) 3-5,11-13, 17-18,22-24, 30-32, 36-37, 41-43, 49-51, 55-56 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5 and 7.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 6, 14, 25, 33, 44, 52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 6, recites, "where the threshold value is 8, there is no recitation in the specification that the threshold used for the total number of colors is 8, nor how to perform it.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 19, 38, 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 19 recites the limitation "all colour channels of said image" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 7-8, 20-21, 26-27, 39-40, 45-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekine et al. (U.S. Patent 5,754,710).

As to claim 1, Sekine discloses a method of clamping the output values of filtered image data comprising a mapping of discrete sample values [converting (mapping) an image of a first resolution represented by multi-valued digital data (discrete sample values) into an image of a second resolution (col. 2, lines 22-25)], said method comprising the steps of:

for each discrete sample value of said mapping:

determining a maximum sample value and a minimum sample value of a plurality of input discrete samples values used to calculate said discrete sample value (col. 9, lines 48-51); and

clamping the output value of said discrete sample value to the domain of said plurality of input discrete sample values utilising said maximum sample value and said to minimum sample value [the output value is restricted (clamped) to a value of 1 or 0 based on the difference between the maximum and minimum vales (col. 9, lines 51-59)], wherein said output value is dependent on a plurality of attributes of said plurality

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of input discrete sample values [the output value depend on the color and luminance (plurality of attributes) of the input digital signal (col. 8, lines 31-60, col. 10, lines 40-52)].

As to claim 2, Sekine further discloses, wherein said plurality of attributes includes a number representing the total number of colours represented by said plurality of input discrete sample values (col. 8, lines 31-60, col. 10, lines 40-52).

As to claim 7, Sekine further discloses, wherein said plurality of attributes includes a magnitude of said discrete sample value [the colours (attributes) are represented by 8 bits supporting vales from 0-225 (magnitudes) (col. 8, lines 50-55).

As to claim 8, Sekine further discloses, wherein said magnitude is compared to said maximum sample value and said minimum sample value (col. 8, lines 48-63).

As to claim 20 refer to claim 1 rejection.

As to claim 21 refer to claim 2 rejection.

As to claim 26 refer to claim 7 rejection.

As to claim 27 refer to claim 8 rejection.

As to claim 39 refer to claim 1 rejection.

As to claim 40 refer to claim 2 rejection.

As to claim 45 refer to claim 7 rejection.

As to claim 46 refer to claim 8 rejection.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9-10, 15-16, 19, 28-29, 34-35, 38, 47-48, 53-54, 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Sekine et al. (U.S. Patent 5,754,710) and Walowite et al. (U.S. Patent 5,131,057).

As to claim 9, Sekine discloses, a method of interpolating image data (col. 7, line 36) comprising a plurality of discrete sample values [multi-valued digital data (discrete sample values) (col. 2, lines 22-25)], said method comprising the steps of:

accessing at least one portion of said discrete sample values of said image data (col. 2, lines 22-35); and

clamping said output value to the domain of said portion of discrete sample values [the output value is restricted (clamped) to a value of 1 or 0 based on the difference between a maximum and minimum values of the sample (domain of the sample value) (col. 9, lines 51-59)], wherein said output value is dependent on a plurality of attributes of said portion of discrete sample values [the output value depends on the color and luminance (plurality of attributes) of the input digital signal (col. 8, lines 31-60, col. 10, lines 40-52)].

Sekine discloses converting (mapping) an image of a first resolution represented by multi-valued digital data (discrete sample values) into an image of a second resolution using interpolation (col. 2, lines 22-25). Sekine does not disclose,

calculating kernel values for each discrete sample value of said portion using one of a plurality of kernels; and

convolving said kernel values with said portion of discrete sample values to produce an output value.

Walowite discloses a method for improving image resolution of a converted image by interpolation, combines the concept of convolution with a parameter controlled mask. The mask is adjusted based on the edge information of the image in order to avoid artifacts (col.1, line 64-col. 2, line 20). The parameters of a cubic kernel is adjusted based on the different image information regions (plurality of kernels) and convolved with the image region values to interpolate an output value (col. 3, line 8-col. 4, line9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Walowite's teachings to modify the method of Sekine by calculating kernel values for each discrete sample value of said portion using one of a plurality of kernels and convolving said kernel values with said portion of discrete sample values to produce an output value in order to interpolate image points based on the edge information in different regions of the image which improves image resolution and prevent artifacts in the converted image.

As to claim 10 refer to claim 2 rejection.

As to claim 15 refer to claim 7 rejection.

As to claim 16 refer to claim 8 rejection.

As to claim 19, Sekine further discloses wherein said maximum sample value and said minimum sample value are calculated over all colour channels of said image data (col. 8, lines 29-42).

As to claim 28 refer to claim 9 rejection.

As to claim 29 refer to claim 2 rejection.

As to claim 34 refer to claim 7 rejection.

As to claim 35 refer to claim 8 rejection.

As to claim 38 refer to claim 19 rejection.

As to claim 47 refer to claim 9 rejection.

As to claim 48 refer to claim 2 rejection.

As to claim 53 refer to claim 7 rejection.

As to claim 54 refer to claim 8 rejection.

As to claim 57 refer to claim 19 rejection.

***Allowable Subject Matter***

10. Claims 3-5, 11-13, 17, 18, 22-24, 37, 30-32, 36, 41-43, 49-51, 55, 56 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 3, the limitation, wherein said number is compared to a threshold Value, is not disclosed by the prior art of record.

As to claim 17, the limitation, wherein said output value is set to said maximum sample value if:

said number is less than said threshold value; and

said output value is greater than said maximum sample value of said portion, is not disclosed by the prior art of record.



As to claim 18, the limitation, wherein said output value is set to said maximum sample value if:

said number is less than said threshold value; and

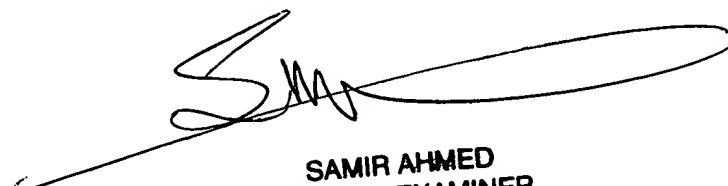
said output value is greater than said minimum sample value of said portion, is not disclosed by the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samir A. Ahmed whose telephone number is 703-305-9870. The examiner can normally be reached on Mon-Fri 8:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**SAMIR AHMED**  
**PRIMARY EXAMINER**